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ABSTRACT

A study was done to explore the relationship between academic achievement and student employment for college students in the arts and sciences and for business students. The study administered a one page questionnaire to students at nine colleges and universities on Long Island, New York, eight of which were primarily commuter colleges with a large percentage of employed students. The instrument asked for grade point average, number of hours worked, year in college, major area of study, reason for working, and the approximate percentage that the student contributed towards their college tuition. The final sample consisted of 562 completed questionnaires of which 247 were submitted by business majors and 315 were submitted by Arts and Science majors. The returned surveys were analyzed using the Pearson Correlation Coefficients and Chi-square Tests of Independence. Using grade point average as the measure of academic achievement, the findings indicated that outside employment was a detriment to Arts and Sciences students but not to business students. The business student's grade point average was not affected by work, whereas the Arts and Sciences student's average was adversely affected by employment. In addition, a higher scholastic aptitude among the Arts and Sciences students did not mitigate the effect. Included are 5 tables and 26 references. (JB)

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Academic Performance and Student Employment: Differences Between Arts and Science and Business Students

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Abstract

Arts and Science and Business students from nine colleges and universities are compared regarding how employment is related to academic performance measured as grade-point average. Arts and Science students' GPA is shown to be be adversely effected by employment, whereas a similar finding is not found in the case of Business students. The concept of a congruence between the nature of the employment and the student's academic pursuits is offered as an explanation of this discrepancy. Recommendations are proposed for counselors to ameliorate the possible adverse effect on the Arts and Science student who is employed.

Academic Performance and Student Employment: Differences Between Arts and Science and Business Students

A majority of college students are currently holding full or part-time jobs. In a recent study done for the American Council on Education (Hexter, 1990), it was found that of the 13.3 million students enrolled in colleges and universities in the U.S. during 1988, 62% were working. Full-time students who were employed worked an average of 20 hours per week, with one out of five working 30 hours or more. At the City University of New York, the third largest university system in the U.S., at least 75% of the community college students, and 80% of university students held jobs (Heller & Heinemann, 1987). In the light of both this large percentage of working college students as well as their extensive working hours, a reevaluation of the impact of student employment on academic performance is crucial so that academic counselors better know where to focus their efforts.

Research on the relation of student employment to academic achievement needs to remedy two basic shortcomings of previous studies: the restriction of the data base to only one college or university; and, the lack of a differential treatment of distinct academic majors. Indeed, the authors of the current article had reason to conjecture that there might be a significant difference between students from Arts and Sciences (A&S) and students from Business (B) concerning how work influences academic performance. Extrapolating from our previous finding that A&S and B students

differed in their attitudes toward change and that this difference might be due to a disparity in the outside work that the students were pursuing (Goldstein & High, 1991), we wondered if a similar difference between A&S and B students would show up in the relation of employment to academic achievement. As a result, the present study separates student by major comparing the A&S with the B student. Moreover, students from nine colleges and universities were surveyed.

There has been an inconsistency in the conclusions of previous studies on the connection between student achievement and outside employment. On the one hand, a very early study (Baker, 1941) found that a working load in excess of 40 hours per week negatively influenced academic performance. However, his conclusion, without it seems much of a factual basis, was that an excessive work load would only be a problem with "weak students." On the other hand, another early study (Dickenson & Newbegin, 1958), done at a place where the percentage of working students was small, found there was no significant correlation between students holding jobs and academic performance. But, more recent studies have shown that the number of hours worked is a crucial factor: a work load in excess of 15 hours per week being detremental to academic performance (Henry, 1967; Hay & Lindsay, 1969); students in an economics course showing a statistically significant inverse relation between amount of hours worked and academic performance (Paul, 1982); and a significant inverse relation between hours worked and "effort" shown by students in

economics courses (Wetzel, 1977). Moreover, Cole (1980) has claimed that 20 or more hours of part-time work had a negative effect on grades. None of these studies, however, compared students with different majors.

To complicate the picture, other studies either concluded that part-time employment had a positive effect on academic performance (Hay & Lindsay, 1969; Bella & Huba, 1982; Hammes & Haller, 1983; Ma and Wooster, 1979), or, at least, did not adversely effect academic performance (Andersen, 1966; Apostol and Doherty, 1972; Dallam and Hoyt, 1981; De Young & Soroffman, 1989; Ehrenberg & Sherman, 1987; Henry, 1967; Kaiser & Bergen, 1968; Meritt, 1970). Reasons offered for a positive effect of work on academic performance have been the following (Heller & Heinemann, 1987; McCarten, 1988): that students with multiple demands on their time are forced to become better organized; that working students are often more highly motivated than nonworking students; that gains in both self-confidence and sense of purpose have salutary spillover effects on students' academic performance.

Paul (1982) also found a positive relationship between student attitudes toward their jobs and student achievement. By attitude toward employment, Paul included their sense of satisfaction, their awareness of the "market position" of their job, and whether they were purely working for monetary rewards. In a similar vein, Dickenson and Newbegin (1958) measured the impact of working on a measure of expected performance based on

actual grade point averages in conjunction with grade predictions previously compiled by multiple regression procedures from entrance tests and other data. Their conclusion was that the "motivation" of the student was a more important factor than hours worked in academic performance since the working student ..."is doing better than he was expected to do..." (p. 317).

This factor of "motivation" may have much to do with the connection of the job to the student's major and career goals. Thus, Healy and Mourton (1987) reported that both career development skills and level of a job (having to do with factors that are related to career achievement) are positively related to GPA. Healy and Mourton still suggested that counselors could aid younger students in enhancing their career attitudes, which presumably would also help increase their academic performance. This suggests that students who are working in jobs that are congruent with their careers would have higher job levels as well as greater chance to develop career development skills, and, therefore, higher GPAs. Thus, Anderson (1966) concluded that school advisors and counselors should consider "conditions" of employment, i.e., the nature of the work done, as more important than the "fact" of employment when considering the effect of part-time work on academic employment.

With the emergence of cooperative education programs, research was conducted on how cooperative education part-time work would affect adademic performance. Thus, both Smith (1965) and Lindenmeyer (1967) concluded that students participating in

cooperative education employment actually showed better academic performance than non-cooperative education students. Moreover, Heller and Heinemann (1987) found that cooperative education students, who tended to work in jobs related to their career choices, showed a greater appreciation of their job as a test of a career choice, a chance to learn about job options in their field, and as a bridge back to the classroom.

Finally, the relation between the type of work and the student's academic area was investigated. Trueblood (1956) found that separating employed groups into sub-groups, those employed in jobs related to their academic objective and those employed in unrelated jobs, led to the result that the first subgroup's GPA was .22 higher than the second subgroup (1.96 and 1.74 respectively on a three-point scale in which 3.0=A). More recently, Haller and Hammes (1983) concluded that one factor that enabled students to maintain their GPA while working was a direct relation of the job to their major (mentioned by 60% of the students). Additionally, DeYoung and Sorofman (1989) found a similar result but this time in the case of pharmacy students: the GPA's of pharmacy students working in a nonpharmacy work environment were lower than if they worked in a pharmacy job. A serious limitation of all of these studies is that they were conducted on a single college campus no matter how large, e.g., Indiana University in the case of Trueblood (1957). Again, none of this research separated and compared students according to their academic disciplines. That is, either students from

different majors or schools within a college or university were examined collectively (eg, Andersen, 1966), or only particular majors were included such as business students (Trueblood, 1956) or economics students (Paul, 1982; Wetzel, 1977) or pharmacy students (De Young & Soroffman, 1989). This assumption that a difference in academic discipline would not be a significant factor on how work impacted academic performance is challenged in the present study.

As a result of these earlier studies plus our aforementioned research on the difference between Arts and Sciences students and Business students regarding their attitudes toward change, the authors of the current article proposed the following hypothesis:

Hypothesis: There would be an inverse correlation between student employment hours and academic performance measured as GPA for the A&S students. The correlation for the B students will be lower, if indeed there is any correlation at all.

In addition, to relate our hypothesis to previous studies, the authors will also investigate the relationships between work, GPA, and major while controlling for aptitude and work patterns.

Method

A one page questionnaire was developed assuring the student of anonymity, and asking the respondent to check the appropriate interval for current GPA as well as number of hours worked per week. Additionally, the student was asked for year in college, major area of study or school (eg. Liberal Arts or Business

School), principal reason for working, and the approximate percentage that they contributed towards their college tuition.

Nine colleges and universities in Long Island, New York were selected for the sample. Eight of these colleges are primarily commuter colleges where a large percentage of students work. The survey instruments were mailed to ten professors at each college, chosen randomly from course offerings listed in the respective college bulletins, with the stipulation that no more than a single professor would be chosen from each academic department. It was hoped that this would reach as many different undergraduate majors as possible. A package of surveys and instructions with an accompanying cover letter asking for assistance to giving the surveys was then sent to the selected professors.

The final sample consisted of N= 562 completed questionnaires. The sample consisted of at least two professors responding from each on the nine colleges. There were 247 business majors and 315 Arts and Science majors.

Results

Two types of statistical techniques were employed in analyzing the returned surveys: Pearson Correlation Coefficients and Chi-square Tests of Independence.

Correlation

The Full Sample

Correlations were calculated between work hours in high school, work hours in college, and current GPA. There was a significant and very strong correlation (.35) between work hours in high school and work hours in college ($p<.01$). However, the correlation between work hours in college and GPA was extremely small (-.06) and not signficant.

Business Sample

A correlation coefficient was calculated between hours worked in high school and hours worked in college (.32) and was found to be significant ($p<.01$). However, as in the full sample, the correlation between hours worked in college and GPA was small (.004) and not signficant.

Arts and Sciences Sample

The correlation between hours worked in high school and hours worked in college was .33 and was found to be signficant ($p<.01$). In the case of A&S students, however, the relation between hours worked in college and GPA was found to be -.14 and was found to be signficant ($p<.01$).

Chi-square Tests of Independence

To compare the Arts and Sciences with the Business students, first an analysis was done for the Arts and Sciences students. The distribution of GPA scores for these students (N=315) is shown in Table 1. A Chi-square Test of Independence was performed on the

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Insert Table 1 about here

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data. The null hypothesis, that GPA and hours worked per week were independent of each other, was rejected at the .05 significance level.

Business students (with majors including accounting, banking, finance, management, and marketing) were then examined with the distribution of their GPA's (N= 247) given in Table 2. A Chi-square Test was not significant, and, therefore, we cannot

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Insert Table 2 about here

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reject the null hypothesis of independence between GPA and hours worked per week for Business Students.

Since Hay and Lindsay (1967) had criticized much of the research on the relation between work and grade point average for not controlling for scholastic aptitude, we controlled for scholastic aptitude (measured as scores on SAT's) for both A&S and

B students. The results again reveal a difference between the A&S and the Business student. Thus, in Table 3, it can be seen that for

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Insert Table 3 about here

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higher aptitude students (defined as SAT scores greater than or equal to 501 on both the verbal and math tests) there is a significantly different GPA for A & S students who work only 0-20 hours per week (GPA = 3.26) versus A & S students who work more than 21 hours per week (GPA = 3.08). However, for Business students, higher aptitude is not a factor, shown by the closeness of the GPA for students working 0-20 hours (GPA = 3.09) and those working in excess of 21 hourse per week (GPA = 3.08).

Controlling for Work Experience

Speculating that a reason that A&S students exhibited a correlation between GPA and hours worked whereas Business students did not might have to do with a difference between both groups concerning a change from working in high school to college, further analysis was done. Thus, controlling for work in high school and college, in Table 4 it can be seen that B students who did not work

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Insert Table 4 about here

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in either high school or college maintained a similar GPA as those

students who worked in both high school and college (3.01 vs. 2.98). However, A&S students who did not work in high school or college had a higher GPA than those A & S students who worked in both high school and college (3.21 vs. 3.02; t=1.93; p<.05).

Finally, Table 5 shows the distribution of GPAs according to

Insert Table 5 about here

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hours worked for both groups of students. For example, for A&S students working between 1-20 hours per week, 63.9% of them reported a GPA of 3.0 or higher. Among those working in excess of 21 hours per week, only 48.8 % had a GPA of 3.0 or higher. The difference was significant (Z = 2.52; p<.01). For Business students, however, the percentage of students with a GPA over 3.0 was approximately the same whether they worked 1-20 or over 21 hours (51.8% and 52.2% respectively).

The Arts and Sciences and the Business students had a very similar distribution regarding their reasons given for working. Thus, for B students, 41% indicated it was for spending money, while 48% said it was to help pay tuition. However, a full 58% also indicated that they were paying less than 10% of their tuition. For A & S students, 41% also said it was for spending money and 50% stated it was for tuition. They also produced a 58% response to the question concerning paying less than 10% of their tuition.

Discussion

The findings indicate that outside employment is a detriment to Arts and Sciences students and not to Business students. As previously indicated, many studies have found that students who worked while in college maintained as high a GPA, if not higher, than students who did not work. The current study with a sampling from nine colleges and universities, however, has found that Business students's GPA is not affected by work, whereas Arts and Science students GPA is indeed adversely affected by employment. Moreover, this difference is not due to a difference in the changing status of employment from high school to college, nor to reasons offered as to why the student is working. Furthermore, a higher scholastic aptitude among the A & S students does not mitigate the affect. This latter finding goes against earlier research that claimed that it would be the weak student with the light working load, not the strong student with the heavy working load who would show a problem in academic performance (Baker, 1941: Hay and Lindsay, 1962).

We have to ask what accounts for the A&S student's academic performance being adversely affected by employment, whereas the Business student's academic performance is not. This is an area where more is necessary to provide a definitive answer. However, it can be speculated that one answer may be the difference in congruence of academic activities with employment between the Business student and the A&S student. That is, from anecdotal

information gathered from our students, we surmise that the Business student job is usually more in line with their career objectives and current field of studies. This doesn't seem to be the case with the A&S student. This suggestion is backed-up by the previously mentioned research concerning both students' perception of their job as well as the congruence of work with the student's career goal. That is, it may be case that, in general, A&S students may be suffering detrimental effects on their academic performance by their employment because of a lack of congruence between job and academic life as well as by a corresponding more negative attitude toward employment. An area for further research is to more specifically pin point the reasons for the detrimental influence of work on the A&S student's performance.

Accordingly, the academic counselor might focus not so much on the fact of employment or its extent but on the congruence of the employment with the student's career and current academic pursuits. Since, aptitude does not seem to be a crucial factor, again congruence emerges as a likely candidate for consideration during counseling. We propose that the counselor explore the following areas with the student:

1. What are the student's attitudes and perceptions about their work? What can be done to ameliorate these attitudes and perceptions?

2. How does the student's work fits into his or her career goals? On the one hand, has the current job shifted the student's career goals? On the other hand, has the student's academic interests and

successes or failures shifted their career goals? (If the student's career goals are too vague and elusive, then these goals themselves should be the focus of counseling, in order for the clarification of goals to aid a student in pursuing outside work that is in harmony with their academic performance).

3. Can the student see any way in which the content of their work is related to their academic activities? Can what they do at school be of any help in their job? (The counselor is here looking for possible, maybe subtle, areas of congruence between work and school).

Certainly, cooperative education seems the best way to provide a congruence between work and school. But, if this is not possible, the counselor may want to spend more time helping that student become better organized to deal with the multiple demands on their time. Furthermore, the counselor could try to glean if any gain in self-confidence and sense of purpose is occurring on the job and try to have the student try to channel that back into their academic life.

Finally, since 41% of the A&S students indicated that they were working for spending money, the question needs to be raised if certain students, such as one's whose academic performance is being seriously undermined by outside work, should be encouraged to cut down on the hours worked.

Conclusion

The large percentage of working students is due to a number of factors including cutbacks in financial aid, rising tuition costs, and changing attitudes about the role of college studies in American life. The prevalence of outside employment demands that counselors include it in their advising of students.

Obviously, the "congruence" factor in the relation of student employment with student academic performance needs further research. The limitations of the current study are that it relies on self-reports of students and that it is based in only one geographical region. However, even now there is some evidence that the Arts and Sciences student who is working may need special attention and counseling regarding how to harmonize their outside employment with their college academic performance.

References

Anderson, B. D. (1966). The Academic Load of the Employed Student. Journal of College Student Personnel, 7, 23-26.

Apostol, R. A., & Doherty, C. P. (1972). Effects of Positive and Routine Job Assignments on Academic Performance. Journal of College Student Personnel, 13, 270-272.

Baker, H. B. (1941). The Working Student and His Grades. Journal of Educational Research, 35, 28-35.

Bella, S. K. & Huba, M. (1982). Student Part-time Jobs: The Relationship between Types of Job and Academic Performance.

Journal of Student Financial Aid, 12, 22-27.

Cole, S. (1980). Send Our Children to Work? Psychology Today, 14, 44-68.

Dallam, J. W., & Hoyt, D. P. (1981). Do Students Have Enough Time to Study? College and University, 57, 84-91.

DeYoung, M., & Sorófman, B. (1989). Working During the Academic Year: An Examination of Pharmacy Students. American Journal of Pharmaceutical Education, 53, 20-23.

Dickinson, C., & Newbegin, B. (1958). Can Work and College Mix?. The Personnel and Guidance Journal, 38, 314-317.

Ehrenburg, R. G. & Sherman, D. R. (1987). Employment While in College: Academic Achievement and Postcollege Outcomes. Journal of Human Resources, 22, 1-23.

Goldstein, J., & High, R. (1991). Chaos and Turbulence in the World of Business: Are We Preparing Our Students. Manuscript submitted for publication.

Hammes, J. F., & Haller, E. J. (1983). Making Ends Meet: Some of the Consequences of Part-time Work for College Students. Journal of College Student Personnel, 24, 529-535.

Hay, J. E., & Lindsay, C. (1969). The Working Student: How Does He Achieve? Journal of College Student Personnel, 10, 109-114.

Healy, C. C., & Mourton, D. (1987). The Relationship of Career Exploration, College Jobs, and Grade Point Average. Journal of College Student Personnel, 28, 28-34.

Healy, C. C., O'Shea, D., & Crook, R. H. (1985). Relation of Career Attitudes to Age and Career Progress During College.

Journal of Counseling Psychology, 32(2), 239-244.

Heller, B. R., & Heinemann, H. N. (1987). The Impact of Structured and Nonstructured Work Experiences on College Students' Attitudes, Values, and Academic Performance. Journal of Cooperative Education, 23, 19-32.

Henry, J. (1967). Part-time Employment and Academic Performance of Freshman. Journal of College Student Personnel, 8, 257-260.

Hexter, H. (1990). Students Who Work: A Profile. (Report No. 81-1502). American Council on Education, Division of Policy Analysis and Research.

Kaiser, H. & Bergen, G. (1968). Shall College Freshman Work?. Journal of College Student Personnel, 9, 384-385.

Ma, L. & Wooster, R. A. (1979). The Effect of Unemployment on the College Student's Academic Performance. College Student Journal, 13, 12-20.

McCarten, A. (1988). Students Who Work. Change, 20, 10-25.

Merritt, R. (1970). Academic Performance of Work-Study Students. Journal of College Student Personnel, 11, 173-175.

Paul, H. (1982). The Impact of Outside Employment on Student Achievement in Macroeconomic Principles. Journal of Economic Education, 13, 2, 51-56.

San, G. (1986). The Early Labor Force Experience of College Students and Their Post-college Success. Economics of Education Review. 5(1), 65-76.

Trueblood, D. (1956). Selected Characteristics of Employed Students in the Indiana University School of Business.

Journal of Educational Research, 20, 209-213.

Trueblood, D. (1957). Effects of Employment on Academic Achievement. The Personnel and Guidance Journal, 36, 112-115.

Wetzel, J. N. (1977). Measuring Student Scholastic Effort: An Economic Theory of Learning. Journal of Economic Education, 9, 34-40.

Table 1
Arts & Science Students
Hours Worked Versus GPA

Hours Currently Worked Per Week	No Work	1-20 Hours	21+ Hours	Total
GPA				
2.0 - 2.24	1 (2.4)	6 (4.2)	9 (7.0)	16
2.25 - 2.49	2 (4.8)	10 (6.9)	12 (9.3)	24
2.5 - 2.74	6 (14.3)	16 (11.1)	14 (10.9)	36
2.75 - 2.99	4 (9.5)	20 (13.9)	31 (24.0)	55
3.0 - 3.24	8 (19.0)	33 (22.9)	28 (21.7)	69
3.25 - 3.49	13 (31.0)	18 (12.5)	15 (11.6)	46
3.5 +	8 (19.0)	41 (28.5)	20 (15.5)	69
Total	42	144	129	315

The number in the parenthesis represents the percentage of the column total.

$X^2 = 23.49$. degrees of freedom = 12.

$p < .025$

Table 2
Business Students
Hours Worked Versus GPA

Hours Currently Worked Per Week	No Work	1-20 Hours	21+ Hours	Total
GPA				
2.0 - 2.24	2 (7.1)	3 (3.6)	7 (5.1)	12
2.25 - 2.49	3 (10.7)	7 (8.4)	21 (15.4)	31
2.5 - 2.74	5 (17.9)	8 (9.6)	15 (11.0)	28
2.75 - 2.99	6 (21.4)	22 (26.5)	22 (16.2)	50
3.0 - 3.24	4 (14.3)	17 (20.5)	32 (23.5)	53
3.25 - 3.49	4 (14.3)	17 (20.5)	22 (16.2)	43
3.5 +	4 (14.3)	9 (10.8)	17 (12.5)	30
Total	28	83	136	247

The number in the parenthesis represents the percentage of the column total.

$X^2 = 8.53$. degrees of freedom = 12.

Not Significant.

Table 3
Higher-Aptitude Students
Hours Worked Versus Mean GPA

	n	Mean GPA	Variance
Business:			
0 - 20 hrs. per week	24	3.09	.165
21+ hrs. per week	34	3.08	.165
t = .09	Not Significant.		
Arts & Sciences:			
0 - 20 hrs. per week	43	3.26	.179
21+ hrs. per week	36	3.08	.180
t = 1.88	p < .05		

Table 4
High School and College Work Patterns
Versus Mean GPA

	n	Mean GPA	Variance
Business:			
No work high school/ No work college	9	3.01	.154
Work high school/ Work college	191	2.98	.179
t = .21	Not Significant.		
Arts & Sciences:			
No work high school/ No work college	22	3.21	.134
Work high school/ Work college	218	3.02	.200
t = 1.93	$p < .05$		

Table 5
GPA Distribution
Based on Current Hours Worked

Business Students

Hours currently worked per week	1 - 20 Hours	21+ Hours
GPA		
2.0 - 2.99	40 (48.2)	65 (47.8)
3.0 +	43 (51.8)	71 (52.2)
Totals:	83	136

The percentage in parenthesis is that of the column total.

Arts & Science Students

Hours currently worked per week	1 - 20 Hours	21+ Hours
GPA		
2.0 - 2.99	52 (36.1)	66 (51.2)
3.0 +	92 (63.9) *	63 (48.8) *
Totals:	144	129

* $Z = 2.52$ $p < .01$

The percentage in parenthesis is that of the column total.